IN THE U.S. PATENT AND TRADEMARK OFFICE

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Applicant: Donald E. BLAHUT et al.

Group Art Unit: 2154

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Examiner: Larry D. Donaghue

Title: INTERNET PROTOCOL BASED NETWORK ARCHITECTURE
                    FOR CABLE TELEVISION ACCESS WITH SWITCHED
                    FALLBACK

Attorney Docket: 129250-002093/US/COA

APPELLANTS' BRIEF ON APPEAL (3rd Corrected Version)

MAIL STOP APPEAL BRIEF - PATENTS
Customer Service Window   September 1, 2007
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        Terminal Disclaimer from Section IX.

APPELLANTS' BRIEF ON APPEAL (Corrected)

I. REAL PARTY IN INTEREST:

The real party in interest in this appeal is Lucent Technologies Inc.

Assignment of the application was submitted to the U.S. Patent and Trademark

Office and recorded at Reel 9163, Frame 0564.

II. RELATED APPEALS AND INTERFERENCES:

There are no known appeals or interferences that will affect, be directly

affected by, or have a bearing on the Board's decision in this Appeal.

III. STATUS OF CLAIMS:

Claims 1, 4, 7-10, 12-18, 20, 22-25 and 27-32 are pending in the

application. Claims 1, 4, 7, 12, 14, 16-18, 20, 22, 27, 29, 31 and 32 are written

in independent form.

Claims 7-10 and 22-25 have been allowed. The Appellants reserve their

right to subsequently raise any issues regarding allowed claims 7-10 and 22-25

should it be necessary in this or any other proceeding.

Claims 1, 4, 12-19, 20 and 27-32 have been finally rejected under 35

U.S.C. §102(e)(claim 19 has since been deleted). Claims 2, 5, 19 and 21 were

finally rejected under 35 U.S.C. §103(a). Subsequently, claims 2, 5, 19 and 21

were cancelled in the AAF entered by the Examiner, their subject matter having

been placed into independent claims 1, 4, 12, 14, 16-18, 20, 27, 29, 31 and 32.

Claims 1, 4, 12-18, 20 and 27-32 are being appealed.

IV. **STATUS OF AMENDMENTS:**

An Amendment After Final ("AAF") was filed on June 2, 2006. In an

Advisory Action mailed August 7, 2006 ("Advisory") the Examiner stated that

the AAF was considered; however, the AAF did not place the application in

condition for allowance. Appellants note that because the Advisory was mailed

after the 3 month shortened statutory time period which expired on July 5th,

2006 any extension of time fees associated with this appeal should be

calculated from the date of the Advisory, namely, from August 7, 2006.

V. **SUMMARY OF CLAIMED SUBJECT MATTER:**

    (i) **Overview of the Subject Matter of the Independent Claims**
        Being Appealed

In general, the present invention is directed at methods and devices for

providing Internet service to an "endpoint" using an alternative/secondary

(collectively "secondary"), Internet Protocol (IP) address.

    (a) <u>Claim 1</u>

More specifically, independent claim 1 is directed to:

    1. **A method for use in providing Internet service to an endpoint, the method comprising the steps of:**
    specifying routing information for an endpoint, wherein the routing information specifies primary and alternative Internet Protocol (IP) addresses (p. 4, l. 3 to p. 5, l. 2; p. 6, l. 12 to p. 7. l. 10)**; and**
    communicating data to the endpoint using the specified primary IP address except during periods of service interruption in which one of the alternative IP addresses are used (p. 8, ll. 4-9) **by**

> **establishing an IP tunnel to the endpoint using one of the alternative IP addresses** (p.6, l. 5 to p. 6, l. 11)**.**

(Specification citations are for example only).

(b) <u>Claim 4</u>

Similarly, independent claim 4 is directed to:

> **4.   A method for use in providing Internet service to an endpoint via a primary communications channel, the method comprising the steps of:**
> **storing a routing table comprising an first Internet Protocol (IP) address associated with routing data to an endpoint via the primary communications channel and a second IP address associated with routing data to the endpoint over a secondary communications channel** (p.6, l. 25 to p. 7, l. 10)**; and**
> **routing data to the endpoint as a function of the routing table such that during periods of service interruption on the primary communications channel data is routed to the endpoint via the secondary communications channel by establishing an IP tunnel to the endpoint using the second IP address** (p. 4, l. 35 to p. 5, l. 2; p. 6, l. 12 to p. 7. l. 10; p. 8, ll. 4-9)**, whereas data is routed to the endpoint via the primary communications channel otherwise.**

(Specification citations are for example only).

Independent claim 7 reads as follows:

(c) <u>Claim 7</u>

> **7.   A method of communicating over a cable television (CATV) access network having a cable modem termination system (CMTS) interface, the method comprising the steps of:**
> **establishing a connection between the CMTS and a distant cable modem (CM) logically derived from an Internet Service Provider (ISP) subnetwork identifier of a Network Access Server (NAS) of the ISP**(p. 4, ll. 3-35)**;**
> **storing routing information associated with the connection, the routing information including at least a CM identifier, an identity of an RF link on the CATV access network over which the CMTS forwards data packets to the CM, and a tunnel interface identifier over which the CMTS**

forwards data packets to the CM over a different network (p.6, l. 25 to p. 7, l. 10)**; and**

communicating data packets to the CM by translating the CM identifier to either the identified RF link or the tunnel interface identifier, wherein the tunnel is invoked in the event of a CATV interface failure (p. 8, ll.4-9)**.**

(Specification citations are for example only).

(d) Claim 12

Independent claim 12 is also directed at an:

12. Apparatus for use in providing Internet service to an endpoint, the apparatus comprising:
a device for (a) specifying routing information for an endpoint, wherein the routing information specifies primary and alternative Internet Protocol (IP) addresses (p. 4, l. 3 to p. 5, l. 2; p. 6, l. 12 to p. 7. l. 10)**; and (b) communicating data to the endpoint using the specified primary IP address except during periods of service interruption in which one of the alternative IP addresses are used** (p. 8, ll. 4-9 and at least Figure 1, 115) **by (c) establishing an IP tunnel to the endpoint using an alternative IP address** (p.6, l. 5 to p. 6, l. 11)**.**

(Specification citations are for example only).

(e) Claim 14

Independent claim 14 is directed at an:

14. Apparatus for use in providing Internet service to an endpoint, the apparatus comprising:
a device for routing data to the endpoint as a function of a routing table stored therein (p. 8, ll. 4-9 and Figure 1, 115) **such that during periods of service interruption on a primary communications channel associated with a primary IP address data is routed to the endpoint via a secondary communications channel associated with a secondary IP address** (p. 4, l. 35 to p. 5, l. 2; p. 6, l. 12 to p. 7. l. 10; p. 8, ll. 4-9 and at least Figure 1, 115) **by establishing an IP tunnel to the endpoint using the secondary IP address, whereas data is routed to the endpoint via the primary communications channel otherwise** (p.6, l. 5 to p. 6, l. 11)**.**

(Specification citations are for example only).

(f) <u>Claim 16</u>

Independent claim 16 is directed at:

16. A system for use in providing Internet service, the system comprising:
a cable head-end router for providing Internet Protocol (IP) packets intended for subsequent conveyance over a primary channel (p. 8, ll. 10-12 and Figure 1, 170)**; and**
a cable modem data termination system responsive to the provided IP packets for routing the IP packets to an endpoint as a function of a routing table stored therein (p. 8, ll. 10-21 and Figure 1, 115) **such that during periods of service interruption on the primary communications channel the IP packets are routed to the endpoint via a secondary communications channel associated with a secondary IP address** (p. 4, l. 35 to p. 5, l. 2; p. 6, l. 12 to p. 7. l. 10; p. 8, ll. 4-9) **by establishing an IP tunnel to the endpoint using the secondary IP address, whereas the IP packets are routed to the endpoint via the primary communications channel associated with a primary IP address otherwise** (p.6, l. 5 to p. 6, l. 11)**.**

(Specification citations are for example only).

(g) <u>Claim 17</u>

Independent claim 17 is directed at:

17. A system for use in providing Internet service, the system comprising:
a cable head-end router for providing Internet Protocol (IP) packets that include a destination field having a value associated with a first IP address (p. 8, ll. 10-21 and Figure 1, 170)**; and**
a cable modem data termination system responsive to the provided IP packets for communicating the IP packets to the endpoint using the first IP address except during periods of service interruption in which an alternative IP address is used by establishing an IP tunnel to the endpoint using the alternative IP address (p. 4, l. 35 to p. 5, l. 2; p. 6, l. 5 to p. 7. l. 10; p. 8, ll. 6-21 and Figure 1, 115)**.**

(Specification citations are for example only).

(h) <u>Claim 18</u>

Independent claim 18 is directed at:

18. A method for use in providing Internet service to an endpoint, the method comprising the steps of:
specifying routing information for an endpoint, wherein the routing information specifies primary and alternative Internet Protocol (IP) addresses (p. 4, l. 3 to p. 5, l. 2; p. 6, l. 12 to p. 7. l. 10)**; and**
communicating data to the endpoint using the specified primary IP address over a first cable-based communications channel except during periods of service interruption in which one of the alternative IP addresses are used for communicating over a second non-cable-based communications channel (p. 8, ll. 4-9) **by establishing an IP tunnel to the endpoint using one of the alternative IP addresses over the non-cable channel** (p.6, l. 5 to p. 6, l. 11)**.**

(Specification citations are for example only).

(i) <u>Claim 20</u>

Independent claim 20 is directed at:

20. A method for use in providing Internet service to an endpoint via a primary communications channel, the method comprising the steps of:
storing a routing table comprising an first-Internet Protocol (IP) address associated with routing data to an endpoint via the primary communications channel and a second IP address associated with routing data to the endpoint over a secondary communications channel (p.6, l. 25 to p. 7, l. 10)**; and**
routing data to the endpoint as a function of the routing table such that during periods of service interruption on the primary communications channel data is routed to the endpoint via the secondary communications channel by establishing an IP tunnel to the endpoint using the second IP address, whereas data is routed to the endpoint via the primary communications channel otherwise and wherein the primary communications channel and the secondary communications channel are supported by physically different communications mediums (p. 4, l. 35 to p. 5, l. 2; p. 6, l. 12 to p. 7. l. 10; p. 8, ll. 4-9)**.**

(Specification citations are for example only).

    (j) <u>Claim 22</u>
Independent claim 22 is directed at:

    22.   A method of communicating over a cable television (CATV) access network having a cable modem termination system (CMTS) interface, the method comprising the steps of:
    establishing a connection between the CMTS and a distant cable modem (CM) logically derived from an Internet Service Provider (ISP) subnetwork identifier of a Network Access Server (NAS) of the ISP (p. 4, ll. 3-35;)**;**
    storing routing information associated with the connection, the routing information including at least a CM identifier, an identity of an RF link on the CATV access network over which the CMTS forwards data packets to the CM, and a tunnel interface identifier over which the CMTS forwards data packets to the CM over a switched telephone network (p.6, l. 25 to p. 7, l. 10)**; and**
    communicating data packets to the CM by translating the CM identifier to either the identified RF link or the tunnel interface identifier, wherein the tunnel is invoked in the event of a CATV interface failure (p. 8, ll.4-9)**.**

    (Specification citations are for example only).

    (k) <u>Claim 27</u>

    Independent claim 27 is directed at an:

    27.   Apparatus for use in providing Internet service to an endpoint, the apparatus comprising:
    a device for (a) specifying routing information for an endpoint, wherein the routing information specifies primary and alternative Internet Protocol (IP) addresses (p. 4, l. 3 to p. 5, l. 2; p. 6, l. 12 to p. 7. l. 10)**, and (b) communicating data to the endpoint using the specified primary IP address over a first cable-based channel except during periods of service interruption in which one of the alternative IP addresses are used for communicating data over a second non-cable-based communications channel** (p. 8, ll. 4-9 and at least Figure 1, 115) **by (c) establishing an IP tunnel to the endpoint using an alternative IP address over the non-cable channel** (p.6, l. 5 to p. 6, l. 11)**.**

    (Specification citations are for example only).

(l) <u>Claim 29</u>

Independent claim 29 is directed at an:

29. **Apparatus for use in providing Internet service to an endpoint, the apparatus comprising:**
a device for routing data to the endpoint as a function of a routing table stored therein (p. 8, ll. 4-9) **such that during periods of service interruption on a primary communications channel associated with a primary IP address data is routed to the endpoint via a secondary communications channel associated with a secondary IP address** (p. 4, l. 35 to p. 5, l. 2; p. 6, l. 12 to p. 7. l. 10; p. 8, ll. 4-9 and at least Figure 1, 115) **by establishing an IP tunnel to the endpoint using the secondary IP address, whereas data is routed to the endpoint via the primary communications channel otherwise and wherein the primary communications channel is physically different from the secondary communications channel** (p.6, l. 5 to p. 6, l. 11)**.**

(Specification citations are for example only).

(m) <u>Claim 31</u>

Independent claim 31 is directed at:

31. **A system for use in providing Internet service, the system comprising:**
a cable head-end router for providing Internet Protocol (IP) packets intended for subsequent conveyance over a primary cable channel (p. 8, ll. 10-12 and Figure 1, 170)**; and**
a cable modem data termination system (Figure 1, 115) **responsive to the provided IP packets for routing the IP packets to an endpoint as a function of a routing table stored therein** (p. 8, ll. 10-21) **such that during periods of service interruption on the primary cable channel the IP packets are routed to the endpoint via a secondary non-cable communications channel associated with a secondary IP address** (p. 4, l. 35 to p. 5, l. 2; p. 6, l. 12 to p. 7. l. 10; p. 8, ll. 6-9) **by establishing an IP**

tunnel to the endpoint using the secondaary IP address, whereas the IP packets are routed to the endpoint via the primary cable channel associated with a primary IP address otherwise(p.6, l. 5 to p. 6, l. 11**).**

(Specification citations are for example only).

(n) <u>Claim 32</u>

Independent claim 32 is directed at:

32.   A system for use in providing Internet service, the system comprising:
a cable head-end router for providing Internet Protocol (IP) packets that include a destination field having a value associated with a first IP address (p. 8, ll. 10-21 and Figure 1, 170)**; and**
a cable modem data termination system (Figure 1, 115) **responsive to the provided IP packets for communicating the IP packets to the endpoint over a cable-based communications channel using the first IP address except during periods of service interruption in which an alternative IP address is used for communicating the IP packets to the endpoint over a non-cable-based communications channel by establishing an IP tunnel to the endpoint using an alternative IP address over the non-cable channel** (p. 4, l. 35 to p. 5, l. 2; p. 6, l. 5 to p. 7. l. 10; p. 8, ll. 6-21**).**

(Specification citations are for example only).

In order to make the overview set forth above concise, and thus useful to the members of the Board, the Appellants note that the disclosure that has been included, or referred to, above represents only a portion of the total disclosure set forth in the Specification that supports the independent claims.

(ii)   The Remainder of the Specification Also Supports the Claims

The Appellants further note that there may be additional disclosure in the Specification that also supports the independent and dependent claims. Further, by presenting the disclosure above the Appellants do not represent

that this is the only evidence that supports the independent claims nor do

Appellants necessarily represent that this disclosure can be used to fully

interpret the claims of the present invention. Instead, this disclosure is an

overview of the claimed subject matter.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL:

Appellants seek the Board's review and reversal of the Examiner's: (1)

rejection of claims 1, 4, 12-18, 20 and 27-32 under 35 U.S.C. §102(e) as being

anticipated by Hrastar et al., U.S. Patent No. 6,286,058 ("Hrastar"); and (2)

rejection of claims 2, 5, 19 and 21 under 35 U.S.C. §103(a) based on the

combination of Hrastar in view Nordman, U.S. Patent No. 6,061,346

("Nordman"). Because dependent claims 2, 5, 19 and 21 have been cancelled

and their subject matter placed into independent claims 1, 4, 12, 14, 16-18,

20, 27, 29, 31 and 32 the §103(a) rejections are now, in effect, applicable to the

independent claims.

VII. ARGUMENTS:

A.) The Section 102(e) Rejections

Claims 1, 4, 12-18, 20 and 27-32 were rejected under 35 U.S.C. §102(e)

as being anticipated by Hrastar. Appellants respectfully disagree for at least

the following reasons.

Each of the claims of the present application includes the feature of establishing an IP tunnel to an endpoint using an alternative or secondary IP address. Appellants note the Examiner's acknowledgement in the Final Office Action that Hrastar does not disclose the establishment of such an IP tunnel to an endpoint using an alternative/secondary IP address.

Because Hrastar does not disclose each element of the claims of the present invention Hrastar cannot anticipate these claims.

Accordingly, Appellants respectfully request that the members of the Board reverse the decision of the Examiner and allow claims 1, 4, 12-18, 20 and 27-32.

B.)   <u>The Section 103 Rejections</u>

Claims 2, 5, 19 and 21 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hrastar in view Nordman. Appellants respectfully disagree for at least the following reasons. Before proceeding, the Appellants again note that these claims have been cancelled and their subject matter placed into the independent claims mentioned above. Accordingly, it is to the independent claims that the following remarks are directed.

(i)   **There is No Motivation To Combine Hrastar and Nordman**

The Appellants respectfully submit that one of ordinary skill in the art, upon reading the disclosures of Hrastar and Nordman, would not combine the two because there is no motivation, suggestion or teaching of a desirability of

making such a combination. More specifically, the Examiner is relying on the combination of Hrastar and Nordham as suggesting the claimed methods of providing Internet service to an endpoint, including the step of establishing an IP tunnel to an endpoint using a secondary IP address.

Taking the last basis first, Hrastar does not explicitly disclose that its CATV packet rerouting methods can use, could use, or need to use the purported tunneled, secondary IP addresses disclosed in Nordham. Hrastar either uses a CATV address or a primary IP address; there is no suggestion in Hrastar that, if its CATV or primary IP address is not available, it can use a tunneled, secondary IP address.

Nor does Hrastar imply that it can use, could use, or need to use the purported tunneled, secondary IP addresses in Nordham; thus, there is no suggestion or motivation to combine the two.

Further, the Appellants respectfully remind the Examiner that the fact that the Examiner may somehow combine the references does not render the subject matter of the claims obvious unless one or more of the references suggest the desirability of such a combination. Absent any mention whatsoever in Hrastar of a need to use tunneled, secondary IP addresses, the Appellants respectfully submit that there is no motivation provided by Hrastar that would cause one of ordinary skill in the art to combine it with Nordham (or vice-versa) as proposed by the Examiner.

(ii)   The Combination of Hrastar and Nordman is Impermissible

The Appellants respectfully submit that the combination of Hrastar and Nordman is impermissible because such a combination requires either one or both of these references to change their principle of operation, which is impermissible (MPEP 2143.01). For example, Hrastar is directed to a CATV system while Nordman is directed to a wireless system. Either Hrastar's principle of operation would have to be changed so that it would be compatible with the wireless system of Nordman or Nordman's wireless system would have to be changed to be compatible with the CATV system of Hrastar. Neither is permissible.

In the Final Office Action (page 6) the Examiner's states his disagreement with the Appellants' position. In explaining his position the totality of the Examiner's position in rebuttal is that the combination of Hrastar and Nordman is permissible because both are "directed to routing data in a network". The Appellants respectfully submit that this is not a sufficient basis for combining the two references. Regardless of the words used to, broadly speaking, characterize the references the fact remains that one skilled in the art would recognize that such a combination would indeed require one or both of the references to change their principle of operation. This is impermissible as noted above.

Accordingly, Appellants respectfully request that the members of the Board reverse the decision of the Examiner and allow independent claims,

1, 4, 12, 14, 16-18, 20, 27, 29, 31 and 32 and those claims that depend from

them.

Conclusion:

     For the reasons stated above, the Appellants respectfully request that the

members of the Board reverse the Examiner's rejections and allow claims 1, 4,

12-18, 20 and 27-32.

                              Respectfully submitted,

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VIII. CLAIMS APPENDIX

1.   A method for use in providing Internet service to an endpoint, the method comprising the steps of:

specifying routing information for an endpoint, wherein the routing information specifies primary and alternative Internet Protocol (IP) addresses; and

communicating data to the endpoint using the specified primary IP address except during periods of service interruption in which one of the alternative IP addresses are used by

establishing an IP tunnel to the endpoint using one of the alternative IP addresses.

2.   (Cancelled).

3.   (Cancelled).

4.   A method for use in providing Internet service to an endpoint via a primary communications channel, the method comprising the steps of:

storing a routing table comprising an first Internet Protocol (IP) address associated with routing data to an endpoint via the primary communications channel and a second IP address associated with routing data to the endpoint over a secondary communications channel; and

routing data to the endpoint as a function of the routing table such that during periods of service interruption on the primary communications channel

data is routed to the endpoint via the secondary communications channel by establishing an IP tunnel to the endpoint using the second IP address,

whereas data is routed to the endpoint via the primary communications channel otherwise.

5.   (Cancelled).

6.   (Cancelled).

7.   A method of communicating over a cable television (CATV) access network having a cable modem termination system (CMTS) interface, the method comprising the steps of:

establishing a connection between the CMTS and a distant cable modem (CM) logically derived from an Internet Service Provider (ISP) subnetwork identifier of a Network Access Server (NAS) of the ISP;

storing routing information associated with the connection, the routing information including at least a CM identifier, an identity of an RF link on the CATV access network over which the CMTS forwards data packets to the CM, and a tunnel interface identifier over which the CMTS forwards data packets to the CM over a different network; and

communicating data packets to the CM by translating the CM identifier to either the identified RF link or the tunnel interface identifier, wherein the tunnel is invoked in the event of a CATV interface failure.

8.   The method of claim 7 wherein CATV access network provides one-way, or downstream, communications to the CM.

9.   The method of claim 7 wherein CATV access network provides two-way communications to the CM.

10.   The method of claim 7 wherein the CM identifier over the CATV network is logically derived from a CMTS subnetwork identifier of the CMTS.

11.   (Cancelled)

12.   Apparatus for use in providing Internet service to an endpoint, the apparatus comprising:

a device for (a) specifying routing information for an endpoint, wherein the routing information specifies primary and alternative Internet Protocol (IP) addresses, and (b) communicating data to the endpoint using the specified primary IP address except during periods of service interruption in which one of the alternative IP addresses are used by (c) establishing an IP tunnel to the endpoint using an alternative IP address.

13.   The apparatus of claim 12 wherein the device is a part of a cable television network (CATV).

14. Apparatus for use in providing Internet service to an endpoint, the apparatus comprising:

a device for routing data to the endpoint as a function of a routing table stored therein such that during periods of service interruption on a primary communications channel associated with a primary IP address data is routed to the endpoint via a secondary communications channel associated with a secondary IP address by establishing an IP tunnel to the endpoint using the secondary IP address, whereas data is routed to the endpoint via the primary communications channel otherwise.

15. The apparatus of claim 14 wherein the device is a part of a cable television network (CATV).

16. A system for use in providing Internet service, the system comprising:

a cable head-end router for providing Internet Protocol (IP) packets intended for subsequent conveyance over a primary channel; and

a cable modem data termination system responsive to the provided IP packets for routing the IP packets to an endpoint as a function of a routing table stored therein such that during periods of service interruption on the primary communications channel the IP packets are routed to the endpoint via

a secondary communications channel associated with a secondary IP address by establishing an IP tunnel to the endpoint using the secondary IP address, whereas the IP packets are routed to the endpoint via the primary communications channel associated with a primary IP address otherwise.

17.   A system for use in providing Internet service, the system comprising:

a cable head-end router for providing Internet Protocol (IP) packets that include a destination field having a value associated with a first IP address; and

a cable modem data termination system responsive to the provided IP packets for communicating the IP packets to the endpoint using the first IP address except during periods of service interruption in which an alternative IP address is used by establishing an IP tunnel to the endpoint using the alternative IP address.

18.   A method for use in providing Internet service to an endpoint, the method comprising the steps of:

specifying routing information for an endpoint, wherein the routing information specifies primary and alternative Internet Protocol (IP) addresses; and

communicating data to the endpoint using the specified primary IP address over a first cable-based communications channel except during periods of service interruption in which one of the alternative IP addresses are used for communicating over a second non-cable-based communications channel by establishing an IP tunnel to the endpoint using one of the alternative IP addresses over the non-cable channel.

19.   (Cancelled)   .

20.   A method for use in providing Internet service to an endpoint via a primary communications channel, the method comprising the steps of:

storing a routing table comprising an first-Internet Protocol (IP) address associated with routing data to an endpoint via the primary communications channel and a second IP address associated with routing data to the endpoint over a secondary communications channel; and

routing data to the endpoint as a function of the routing table such that during periods of service interruption on the primary communications channel data is routed to the endpoint via the secondary communications channel by establishing an IP tunnel to the endpoint using the second IP address, whereas data is routed to the endpoint via the primary communications channel otherwise and wherein the primary communications channel and the

secondary communications channel are supported by physically different communications mediums.

21.   (Cancelled).

22.   A method of communicating over a cable television (CATV) access network having a cable modem termination system (CMTS) interface, the method comprising the steps of:

establishing a connection between the CMTS and a distant cable modem (CM) logically derived from an Internet Service Provider (ISP) subnetwork identifier of a Network Access Server (NAS) of the ISP;

storing routing information associated with the connection, the routing information including at least a CM identifier, an identity of an RF link on the CATV access network over which the CMTS forwards data packets to the CM, and a tunnel interface identifier over which the CMTS forwards data packets to the CM over a switched telephone network; and

communicating data packets to the CM by translating the CM identifier to either the identified RF link or the tunnel interface identifier, wherein the tunnel is invoked in the event of a CATV interface failure.

23.   The method of claim 22 wherein CATV access network provides one-way, or downstream, communications to the CM.

24. The method of claim 22 wherein CATV access network provides two-way communications to the CM.

25. The method of claim 22 wherein the CM identifier over the CATV network is logically derived from a CMTS subnetwork identifier of the CMTS.

26. (Cancelled)

27. Apparatus for use in providing Internet service to an endpoint, the apparatus comprising:

a device for (a) specifying routing information for an endpoint, wherein the routing information specifies primary and alternative Internet Protocol (IP) addresses, and (b) communicating data to the endpoint using the specified primary IP address over a first cable-based channel except during periods of service interruption in which one of the alternative IP addresses are used for communicating data over a second non-cable-based communications channel by (c) establishing an IP tunnel to the endpoint using an alternative IP address over the non-cable channel.

28. The apparatus of claim 27 wherein the device is a part of a cable television network (CATV).

29.   Apparatus for use in providing Internet service to an endpoint, the apparatus comprising:

a device for routing data to the endpoint as a function of a routing table stored therein such that during periods of service interruption on a primary communications channel associated with a primary IP address data is routed to the endpoint via a secondary communications channel associated with a secondary IP address by establishing an IP tunnel to the endpoint using the secondary IP address, whereas data is routed to the endpoint via the primary communications channel otherwise and wherein the primary communications channel is physically different from the secondary communications channel.

30.   The apparatus of claim 29 wherein the device is a part of a cable television network (CATV).

31.   A system for use in providing Internet service, the system comprising:

a cable head-end router for providing Internet Protocol (IP) packets intended for subsequent conveyance over a primary cable channel; and

a cable modem data termination system responsive to the provided IP packets for routing the IP packets to an endpoint as a function of a routing table stored therein such that during periods of service interruption on the

primary cable channel the IP packets are routed to the endpoint via a secondary non-cable communications channel associated with a secondary IP address by establishing an IP tunnel to the endpoint using the secondaary IP address, whereas the IP packets are routed to the endpoint via the primary cable channel associated with a primary IP address otherwise.

32.   A system for use in providing Internet service, the system comprising:

a cable head-end router for providing Internet Protocol (IP) packets that include a destination field having a value associated with a first IP address; and

a cable modem data termination system responsive to the provided IP packets for communicating the IP packets to the endpoint over a cable-based communications channel using the first IP address except during periods of service interruption in which an alternative IP address is used for communicating the IP packets to the endpoint over a non-cable-based communications channel by establishing an IP tunnel to the endpoint using an alternative IP address over the non-cable channel.

IX.   EVIDENCE APPENDIX

A terminal disclaimer has been filed in this application in accordance with 37 CFR 1.130(b) (copy attached) to overcome non-statutory double

patenting rejections based on U.S. Patent No. 6,065,061 ('061Patent) which is commonly owned by Lucent Technologies, Inc.

X.   **RELATED PROCEEDINGS APPENDIX**

No related proceedings are known by the Appellants' present attorneys at this time. If the Appellants' present attorneys learn of any such decisions rendered in the '061 Patent they will promptly file an amended brief and bring any such decisions to the attention of the Examiner and members of the Board.